



Framingham

State University

CHEM 101 THE CHEMISTRY OF LIFE

Course Information

Semester	: Winter 2022 (December 22, 2022 – January 16, 2023)
Credit	: 4
Teaching Hours	: 50 Hours
Location	: Online
Professor	: Prof. Nan Chen
Email	: nchen@framingham.edu

Lecture Format: Asynchronous Online

Virtual Office Hours: TBD

Office Hours Zoom Link: Will be posted on the course Canvas page

If you wish to speak to me outside the allotted office hours, please come by or make an appointment.

Catalog Description:

An exploration of the origin of life on a molecular basis; a familiarization with the basic chemistry of living organisms and their environment; an understanding of the laws that govern life; and a discussion on the fate of life as a consequence of drugs and man's chemical pollution of the earth's atmosphere, soil and water. Designed as a terminal **non-laboratory** course for the liberal arts non-science student.

Learning Objectives:

Upon successful completion of this course, students will be able to:

- Identify the elementary concepts of chemistry.
- Relate the use of chemistry in their everyday lives.
- Understand the concepts of atoms, molecules, ions, solutions and chemical reactions.
- Recognize the relevance of chemistry in important societal issues.
- **Think critically.**

Required Materials

- 21st Century Chemistry, Kimberley Waldron, 2nd Ed., ISBN-13: 9781319106171
- MacMillan e-textbook and achieve online homework can be purchased from <https://achieve.macmillanlearning.com/courses/88xtw8>
- Non-programmable Scientific calculator



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Asynchronous Lectures: Pre-recorded lecture videos and slides will be posted in Canvas. These lectures are designed to help you understand the emphasized material. To get the most out of lecture, please read the appropriate chapters before watch the lecture videos.

Discussions and Participations:

A weekly discussion topic will be posted on Canvas Discussion Board. The discussion Board is used to promote student interaction and exchange of ideas in this course. Either focused or threaded discussions will be utilized. Your participations in the discussion board is mandatory.

End-of-Chapter Assignments: There are 14 end-of-chapter assignments, one for each chapter. Assignments and their due dates will be given in class and must be electronically submitted when they are due. Assignments will be designed to reinforce concepts presented in class and provide individual exploration of topics of interest. ***Late assignments will not be accepted.***

Attendance: Classes, Assignments & Exams:

The class contents are to be delivered asynchronously online. It is highly recommended that you make every effort to read the textbook, watch the lecture videos/slides, and complete the end-of-chapter assignments on a daily basis, as the three one-hour exams are based solely on the lecture. All exams will be completed in Canvas using Lockdown Browser at the designated exam window. If the exam is not submitted during the scheduled exam window, students will receive a zero for the exam. Be sure to take care of any technical issues prior to your exam window. Make-up exams will only be permitted due ***to illness or family emergency.*** If you are unable to take the scheduled exams at the designated exam window because of illness or emergency, you are expected to contact me ***before class*** by school e-mail. Failure to notify me will result in you not receiving consideration for a make-up examination. A Doctor's note is required in case of an illness.

Important Dates:

Last day to add or drop:	TBD
Last day to withdrawal from course:	TBD
Final Exam:	January 16 th

Exams:

Three one-hour exams will be given during the semester. A tentative exam schedule is provided below. ***Make-up exams will only be permitted due to illness or family emergency.***

Exam Schedule:	Hour Exam I	December 28 th
	Hour Exam II	January 3 rd
	Hour Exam III	January 9 th



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Final Exam:

The final exam will be comprehensive and accounts for 25 % of your final grade.

Final Exam: January 16th

Grade Calculations:

Regular class attendance and completion of chapter readings are necessary to succeed in this course. Your final course grade will be calculated as follows:

Discussions/Participations (5)	10%
End-of-Chapter Assignments (14)	28%
Exams (3)	36%
Cumulative Final Exam	25%
Technology Training	1%

Class Hours and Course Expectations

For our accreditation, it is essential that all Framingham State University credit courses follow the Federal Definition of credit hour: for every one hour of classroom or direct faculty instruction, a minimum of two hours of out-of-class student work is required.

Academic Honesty:

Plagiarism and cheating of any kind are unacceptable, and all such offences will be reported to your academic dean and will result in failure of the assignment and possibly of the course. Please properly cite all quoted or paraphrased sources, and any ideas which are not originally yours. If you have any questions about how to cite your sources, or if you are unsure what counts as plagiarism or cheating, please get in touch with me. Integrity is essential to academic life. Consequently, students who enroll at Framingham State University agree to maintain high standards of academic honesty and scholarly practice. They shall be responsible for familiarizing themselves with the published policies and procedures regarding [academic honesty](#).

Academic honesty requires but is not limited to the following practices: appropriately citing all published and unpublished sources, whether quoted, paraphrased, or otherwise expressed, in all of the student's oral and written, technical, and artistic work; observing the policies regarding the use of technical facilities.

Infractions of the Policy on Academic Honesty include, but are not limited to:

1. Plagiarism: claiming as one's own work the published or unpublished literal or paraphrased work of another. It should be recognized that plagiarism is not only academically dishonest but also illegal.



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2. Cheating on exams, tests, quizzes, assignments, and papers, including the giving or acceptance of these materials and other sources of information without the permission of the instructor(s).
3. Unauthorized collaboration with other individuals in the preparation of course assignments.
4. Submitting without authorization the same assignment for credit in more than one course.
5. Use of dishonest procedures in computer, laboratory, studio, or field work.
Further clarification on academic honesty will be provided, when appropriate, in individual courses.
6. Misuse of the University's technical facilities (computer machinery, laboratories, media equipment, etc.), either maliciously or for personal gain. Examples include but are not necessarily limited to:
 - a) Accessing the private files of another person or agency without express permission.
 - b) The unauthorized use of technical facilities for purposes not connected with academic pursuits. When evidence indicates that a student has improperly used a technical facility, an appropriate supervisor (faculty or staff member) may take appropriate action reflecting the seriousness of the infraction, ranging from a verbal warning to, but not beyond, denial of use of the facility. If coursework may have been plagiarized, the supervisor will also inform all concerned faculty members, who may take action as described in the procedures for handling cases of alleged infractions of academic honesty.
7. Falsification of forms used to document the academic record and to conduct the academic business of the University

For more information about Academic Regulations at Framingham State, please see pages 28 -46 of the [Framingham State University Undergraduate Catalog 2022-2023](#).

Accommodation for Students with Disabilities:

"Framingham State University offers equal opportunities to all qualified students, including those with disabilities and impairments. The University is committed to making reasonable accommodations as are necessary to ensure that its programs and activities do not discriminate, or have the effect of discriminating, on the basis of disability. The [Disability/Access Services Office](#) serves students with learning and psychiatric disabilities as well as students with visual, mobility and hearing impairments. For further information about this, please contact the Director of Academic Support and Director of CASA (Center for Academic Support and Advising) at 508-626-4906 or academicsupport@framingham.edu

My Commitment to Cultivate an Anti-Racist Classroom

At Framingham State University, faculty, staff, and students work together to sustain a learning, working, and living community free from hate, discrimination, harassment, and intolerance. We



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recognize the damaging effects of systemic racism—including policies, structures, and historic practices—on the experience and success of communities of color. Coming from different backgrounds and different levels of privilege, we can all affirm and engage in anti-racist work. Diversity of voices, and of minds, strengthens our ability to solve problems and to ask and answer questions about the world we share. As your instructor, I commit to upholding community values of inclusion, civility, accessibility, and mutual respect. I expect this class to commit to creating a community that affirms and welcomes all persons from diverse backgrounds and experiences, and supports the realization of everyone's potential.

Sex/Gender-based Harassment and Violence

Framingham State University is committed to maintaining a safe and healthy learning, living and working environment that is free from all forms of sexual violence, sexual harassment, gender-based harassment, domestic violence, dating violence, stalking and retaliation. If you or someone you know has experienced any form of sexual- or gender-based misconduct, we urge you to visit the SHAPE website for information regarding on-campus and community resources, University policy, contact information for the Title IX Coordinators, confidential and nonconfidential reporting options, victim rights, and more.

U.S. Copyright Law

This course website may contain copyrighted materials that are used in compliance with the U.S. Copyright Law. Under that law, materials may not be saved to your computer, revised, copied, or distributed without permission. They are to be used in support of instructional activity as part of this course only and shall be limited to the duration of the course, unless otherwise specified by the instructor or owner of the material. You may only download or print materials at the direction of your instructor who knows which materials are copyrighted and which are not.



Tentative Schedule

Date	Topic	Assignments	Important Events
Dec. 22	Class Overview Technology Training Chapter 1. The Story of Chemistry	Use Lockdown Browser to complete an online training and post a comment on Canvas Discussion Board. Chapter 1 Assignment	Discussion 1 Due
Dec. 23	Chapter 2. Atoms	Chapter 2 Assignment	
Dec. 26	Chapter 3. Everything	Chapter 3 Assignment	
Dec. 27	Chapter 4. Bonds	Chapter 4 Assignment	Discussion 2 Due
Dec. 28	Hour Exam 1	Exam on Ch. 1-4	Ch 1-4 Assignment Due
Dec. 29	Chapter 5. Carbon	Chapter 5 Assignment	
Dec. 30	Chapter 6. Air	Chapter 6 Assignment	
Jan. 2	Chapter 7. Chemical Reactions	Chapter 7 Assignment	Discussion 3 Due
Jan. 3	Hour Exam 2	Exam on Ch. 5-7	Ch 5-7 Assignment Due
Jan. 4	Chapter 8. Water	Chapter 8 Assignment	
Jan. 5	Chapter 9. Salts and Aqueous Solution	Chapter 9 Assignment	
Jan. 6	Chapter 10. pH and Acid Rain	Chapter 10 Assignment	Discussion 4 Due
Jan. 9	Hour Exam 3	Exam on Ch. 8-10	Ch 8-10 Assignment Due
Jan. 10	Chapter 11. Nukes	Chapter 11 Assignment	
Jan. 11	Chapter 12. Energy, Power, and Climate Change	Chapter 12 Assignment	
Jan. 12	Chapter 13. Sustainability and Recycling	Chapter 13 Assignment	
Jan. 13	Chapter 14. Food	Chapter 14 Assignment	Discussion 5 Due
Jan. 16	Final Exam		Ch 11-14 Assignment Due